

Aliyah Marie Fulo
2015-05872

ME#08 - Containerization and Docker

1. Running and Managing Docker Containers and Images

a. Pulling an image

Pulling images and checking docker images afterwards

```
C:\Users\Aliyah Marie Fulo>docker pull ubuntu:16.04
16.04: Pulling from library/ubuntu
80bce60046fa: Pull complete
55a738a15540: Pull complete
e19cf0706c62: Pull complete
de4cdd6c27d1: Pull complete
Digest: sha256:9775877f420d453ef790e6832d77630a49b32a92b7bedf330adf4d8669f6600e
Status: Downloaded newer image for ubuntu:16.04
docker.io/library/ubuntu:16.04

C:\Users\Aliyah Marie Fulo>docker pull ubuntu:16.10
16.10: Pulling from library/ubuntu
dca7be20e546: Pull complete
40bca54f5968: Pull complete
61464f23390e: Pull complete
d99f0bcd5dc8: Pull complete
120db6f90955: Pull complete
Digest: sha256:8dc9652808dc091400d7d5983949043a9f9c7132b15c14814275d25f94bca18a
Status: Downloaded newer image for ubuntu:16.10
docker.io/library/ubuntu:16.10

C:\Users\Aliyah Marie Fulo>docker images
REPOSITORY    TAG        IMAGE ID      CREATED       SIZE
ubuntu        16.04      9ff95a467e45  3 weeks ago  135MB
ubuntu        16.10      7d3f705d307c  3 years ago  107MB
```

Removing ubuntu:16.10 and checking docker images after

```
C:\Users\Aliyah Marie Fulo>docker rmi 7d3f705d307c
Untagged: ubuntu:16.10
Untagged: ubuntu@sha256:8dc9652808dc091400d7d5983949043a9f9c7132b15c14814275d25f94bca18a
Deleted: sha256:7d3f705d307c7c225398e04d4c4f8512f64eb8a65959a1fb4514dfde18a047e7
Deleted: sha256:d9db289b9342d9617596cd6ee3bba988629e24d9afa5db4e4b0e4e491c65007d
Deleted: sha256:a87725e8597b97f2399bc3aa50b0e2eec903b8ce19055668d3befb012918205c
Deleted: sha256:38cf10a2801529348366953e9b933d3524360dedc91d3e4d5d7f941da0c973c9
Deleted: sha256:61172966249d43026dbd017eec3a9575e37bddf8a269a9f09ecb559d7bfe7fef
Deleted: sha256:57145c01eb80040fdd0a24cde20af4788605b49593188d4f7efab099af89a08e

C:\Users\Aliyah Marie Fulo>docker images
REPOSITORY    TAG        IMAGE ID      CREATED       SIZE
ubuntu        16.04      9ff95a467e45  3 weeks ago  135MB
```

b. Running our container

Running ubuntu

```
C:\Users\Aliyah Marie Fulo>docker run ubuntu:16.04 /bin/echo 'Hello world!'
'Hello world!'
```

Checking containers

```
C:\Users\Aliyah Marie Fulo>docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS        NAMES
C:\Users\Aliyah Marie Fulo>docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS        NAMES
5cb2ac4c8ee7   ubuntu:16.04  "/bin/echo 'Hello wo..."  2 minutes ago  Exited (0) 2 minutes ago          nifty_lederberg
```

Inside Bash session

```
C:\Users\Aliyah Marie Fulo>docker run -it ubuntu:16.04 /bin/bash
root@953f8631659b:/# pwd
/
root@953f8631659b:/# ls
bin boot dev etc home lib lib64 media mnt opt proc root run sbin srv sys tmp usr var
root@953f8631659b:/# exit
exit
```

Running container idly

```
C:\Users\Aliyah Marie Fulo>docker run -d ubuntu:16.04 /bin/sleep 3600
782f8d3ddfbe3bdb8181db110ef32da2817aae0b85d19922c71463f7d1a2cc9e
C:\Users\Aliyah Marie Fulo>docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS        NAMES
782f8d3ddfbe   ubuntu:16.04  "/bin/sleep 3600"        12 seconds ago  Up 8 seconds          fervent_khayyam
```

Reattaching

```
C:\Users\Aliyah Marie Fulo>docker exec -it 782 /bin/bash
root@782f8d3ddfbe:/# ps aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  0.0  0.0   4372   664 ?        Ss   00:50   0:00 /bin/sleep 3600
root         7  0.0  0.0  18236   3192 pts/0    Ss+  00:52   0:00 /bin/bash
root        18  0.3  0.0  18236   3188 pts/1    Ss   00:54   0:00 /bin/bash
root        29  0.0  0.0  34420   2744 pts/1    R+   00:54   0:00 ps aux
root@782f8d3ddfbe:/# exit
exit
C:\Users\Aliyah Marie Fulo>docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS        NAMES
782f8d3ddfbe   ubuntu:16.04  "/bin/sleep 3600"        4 minutes ago  Up 4 minutes          fervent_khayyam
```

Stopping

```
C:\Users\Aliyah Marie Fulo>docker stop 782f
782f

C:\Users\Aliyah Marie Fulo>docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
782f8d3ddfbe	ubuntu:16.04	"/bin/sleep 3600"	6 minutes ago	Exited (137) 18 seconds ago		fervent_khayyam
953f8631659b	ubuntu:16.04	"/bin/bash"	9 minutes ago	Exited (0) 8 minutes ago		peaceful_kilby
afad6c9ffe3f	ubuntu:16.04	"/bin/bash"	10 minutes ago	Exited (0) 10 minutes ago		keen_shaw
5cb2ac4c8ee7	ubuntu:16.04	"/bin/echo 'Hello wo...'"	15 minutes ago	Exited (0) 15 minutes ago		nifty_lederberg

Removing containers

```
C:\Users\Aliyah Marie Fulo>docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
782f8d3ddfbe	ubuntu:16.04	"/bin/sleep 3600"	8 minutes ago	Exited (137) About a minute ago		fervent_khayyam
953f8631659b	ubuntu:16.04	"/bin/bash"	10 minutes ago	Exited (0) 9 minutes ago		peaceful_kilby
afad6c9ffe3f	ubuntu:16.04	"/bin/bash"	11 minutes ago	Exited (0) 11 minutes ago		keen_shaw
5cb2ac4c8ee7	ubuntu:16.04	"/bin/echo 'Hello wo...'"	16 minutes ago	Exited (0) 16 minutes ago		nifty_lederberg

```
C:\Users\Aliyah Marie Fulo>docker rm 782f
782f

C:\Users\Aliyah Marie Fulo>docker rm 953f
953f

C:\Users\Aliyah Marie Fulo>docker rm afad
afad

C:\Users\Aliyah Marie Fulo>docker rm 5cb2
5cb2

C:\Users\Aliyah Marie Fulo>docker run --rm ubuntu:16.04 /bin/echo 'Hello world!'
'Hello world!'

C:\Users\Aliyah Marie Fulo>docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
--------------	-------	---------	---------	--------	-------	-------